

Focusing on Innovation

**Read Ahead
for**

NAVFAC ESG

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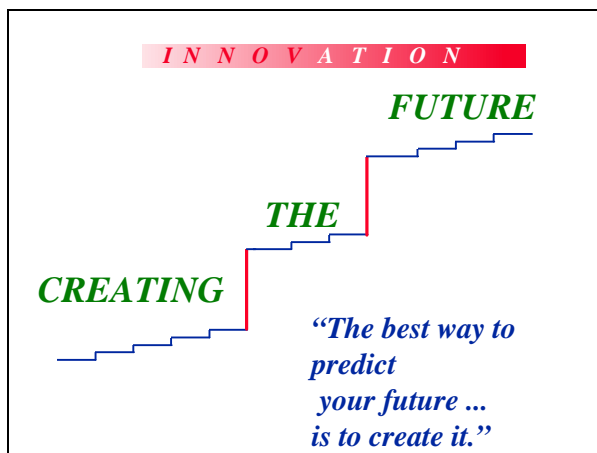
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Introduction

The Chinese use the same word to describe “opportunity” and “threat”. In the English language, a similar word is “*change*”. We can read change as “*opportunity*” if we are prepared, committed, knowledgeable and take action.

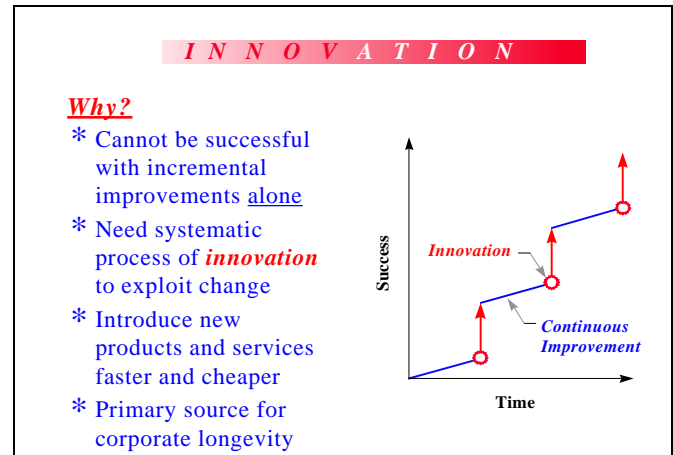
Innovation and opportunity go hand in hand. We can capitalize on change through innovation. “To be an innovative organization, you have to ask for innovation... it’s that simple -- and that hard!”



Why do we need to be innovative? Because we cannot be successful with incremental improvement alone. We need a systematic process of **innovation** to exploit change and introduce new products and services faster and cheaper. Innovation is a key to corporate longevity in these rapidly changing times. In 1910 the U.S. had 200 automobile manufacturers. In 1988, only two have survived, primarily a result of innovation.

Continuous improvement is important to keep our current products and services up to date and valuable. But, along with continuous improvement, we need to make major advancements (innovative leaps) in our processes, products and services.

What is the market for the very best typewriter available? A jeweled Swiss watch movement? No amount of continuous improvement will make them viable products today. Technology converged and new products rendered the old useless.



Entrepreneurs and successful organizations exploit change. 3M has successfully required that 25% of its business come from products not in existence five years earlier. With 60,000 products and hundreds of operating entities, 3M has diversified quite widely from its original product - sandpaper that worked underwater!

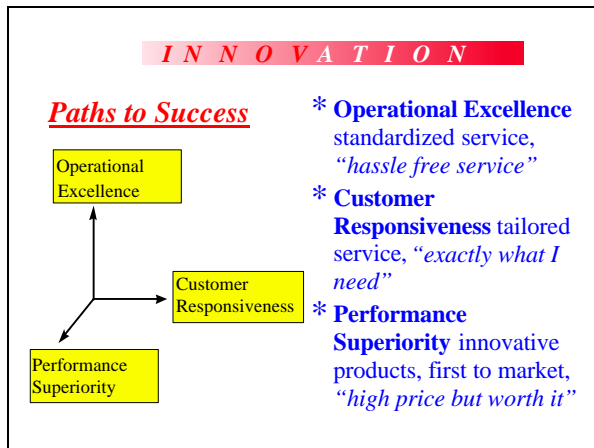
I’m not suggesting that we are comparable to 3M, but I do know that we must become invaluable to our customers. We should create new services before they know they need them. We need to make innovation part of our strategic business plan.

This paper covers:

- Strategic and organizational aspects of innovation
- A model process for organizational innovation
- Implementing an innovative venture

Strategic and Organizational Aspects of Innovation

Strategically there are only a few paths which an organization can take to succeed: operational excellence, customer responsiveness and performance superiority. NAVFAC as a whole delivers along all three paths.



Inherent to most innovations is technology. Therefore, technology, or maintaining technical knowledge, should be a key element of our corporate strategy. One of our objectives should be knowledge building and strategic positioning. Although an oversimplification, three types of technical knowledge exist that we must maintain in order to pursue success:

- Base or parity knowledge - must have to be in business (operational excellence).
- Key or defining knowledge - gives advantage over competition (customer responsiveness).
- Emerging or embryonic knowledge - the future of our business (performance superiority).

And remember, today's emerging technology is tomorrow's key technology. Today's key technology is tomorrow's base technology, and today's base technology is tomorrow's obsolete technology! We must purposefully

maintain our corporate technical knowledge to be innovative and successful.

To be innovative and successful we must aim our goals and policies at:

- Technological Leadership - achieving scientific and technical superiority.
- Product Innovation - developing and introducing new products and services earlier and more effectively.
- Process Innovation - developing new or making major changes in our existing processes to deliver our products and services faster, better and cheaper.
- Applications Development - developing and supporting new applications of existing products.
- Process Development (TQL) - improving and maintaining production processes.

A Model Process for Organizational Innovation

The process of innovation is simple. The work is hard. After considerable research, a four step model, based upon the work of Michel Robert, was adopted by the Atlantic Division to systematically anticipate, recognize and exploit change. The steps are Search, Assess, Develop and Pursue. Others have proposed similar models and labeled the steps as Discovery, Decision, Development and Delivery. The words are not important, but the process is:

- **Search** for new product or service opportunities that arise from change.
- **Assess** opportunities based on cost, benefit, strategic fit, and difficulty of implementation.
- **Develop** innovative concepts- identify critical success and failure factors.
- **Pursue** success - design an implementation plan.

Lets look at each of these steps in a little more detail.

1. **Search** - know where to look.

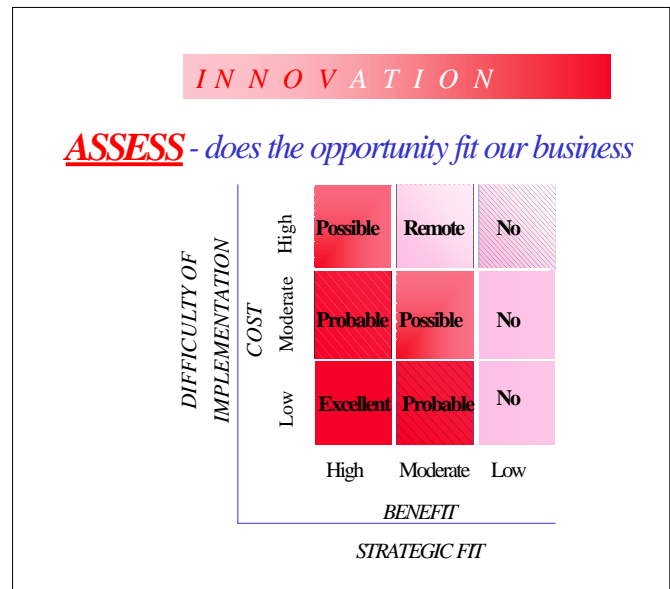
Ford developed the Mustang from the lessons learned from the Edsel debacle. Federal Express identified the primary process weakness of the US Postal Service, snail-pace slow delivery, and created an entirely new market and service - overnight delivery. We certainly have plenty of opportunities if we look at some of the following:

- ***Unexpected Successes*** (easy - exploit them)
- ***Unexpected Failures*** (when great success was anticipated)
- ***Unexpected External Events*** (gold mine, redeploy assets)
- ***Process Weaknesses*** (bottleneck, weak link, missing link)
- ***Customer Structural Changes*** (organization, mission)
- ***High-Growth/Demand Areas*** (what the customer uses)
- ***Converging Technologies*** (cause it to happen)
- ***Perception Changes*** (value of product or service)
- ***New Knowledge*** (inventions, discoveries - hardest)

2. **Assess** - does the opportunity fit our business?

Step 2 enables us to decide whether to invest in the innovation. Most innovations will require some investment of resources (people, time, and money). The assessment phase allows us to select those innovative opportunities that have the best chance of being successful - those on which we are willing to expend some additional resources to develop. The ideal is of course one with high benefit and strategic fit that is easy to implement and at a low cost.

Note that strategic fit is on this matrix along with benefit (ROI). This is where we recognize the importance of technology as an asset and of value in strategic positioning.

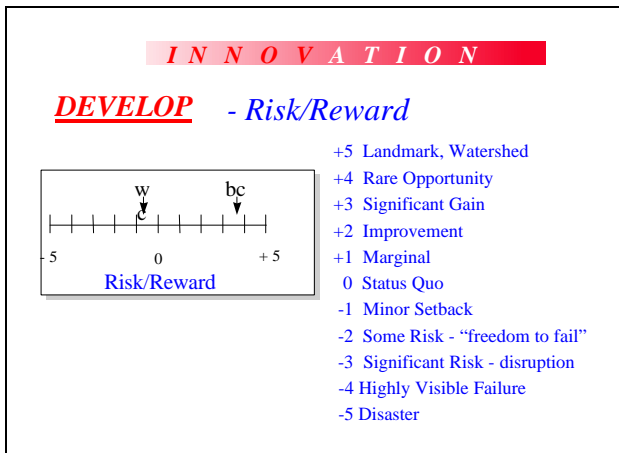


3. **Develop** - anticipate critical factors.

How many times have you tried to sell an idea by pointing out the problems? More than likely you presented all the positive aspects - human nature. But, in an innovation process it is absolutely critical to identify both the worst and best cases. By developing an honest best and worst case scenario we can anticipate critical factors associated with them. Critical factors that typically have to be looked at are:

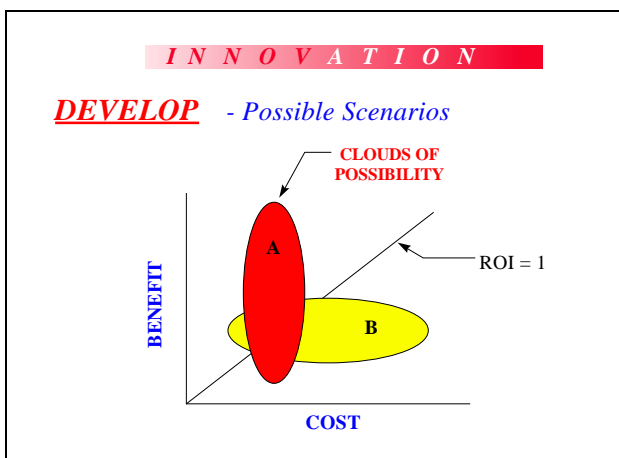
- Technical
- Timing
- Stability
- Growth
- Marketability
- Personnel
- Process
- Financial
- Uniqueness

Here is another way to look at the relationship between risk and reward associated with the innovative opportunity:



In the example above the best case is a very significant gain. The worst case is only a minor setback. We would certainly want to consider pursuing it.

Below is a slightly different way of looking at an innovative opportunity. But, be careful not to place too much importance on return on investment (ROI). Other factors such as strategic positioning may be just as critical.



We cannot be absolutely sure of the outcome of any venture, but we can establish some range of possibilities based on assumptions

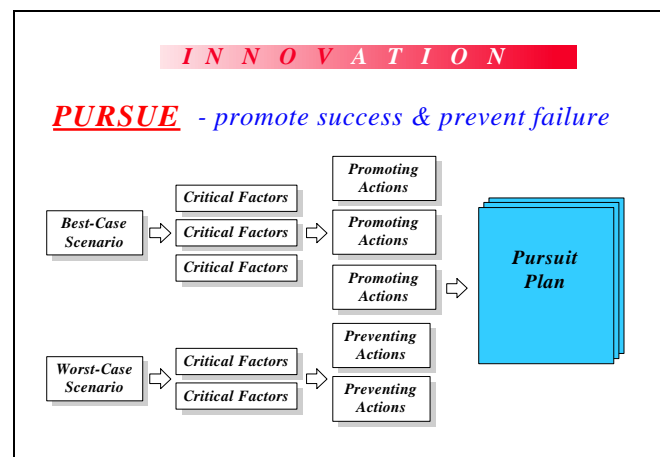
and the best available information. During the process of innovation we measure, test and validate our critical assumptions - modifying our plan if necessary as more information becomes available.

Obviously, we would pursue the innovation above characterized by the “A” cloud of possibility. But there is too little chance of return on investment to pursue the one with the “B” cloud of possibility.

4. Pursue - promote success and prevent failure.

By the time we reach the pursuit stage, we have narrowed down the field of possible innovative ventures to the few that have the greatest chance to succeed and produce the most payback or strategic position. Only then will we expend significant resources.

In the pursuit stage we build upon the others. From the best case scenario, critical factors are identified and promoting actions are devised to make it a success. It is necessary to address the worst case scenario and the critical factors associated with it. Many things fail simply because actions were not taken to prevent failure.



In summary, the outputs of the innovation process are:

- **Search** - an inventory of new product/service concepts, being proactive vs. reactive
- **Assessment** - a list of specific new product/service concepts ranked in order of potential success
- **Development** - an orientation of thinking toward critical factors, a short list of very best opportunities available
- **Pursuit** - a transition from thinking to action, concrete implementation plan that incorporates actions to prevent failure and promote success

Implementing an Innovative Venture

The pursuit plan is vital. The pursuit plan addresses such key issues as:

- Selecting, evaluating, and compensating venture management such as the champion, the sponsor, and others.
- Locating the venture in the organization
- Developing the Business Plan.
- Organizing and controlling the innovation
- Internal politics of venturing.
- Testing and validating critical assumptions.

Even the best companies can run into serious trouble if they don't recognize critical assumptions buried in their plans. Even the Walt Disney Company, 49% owner of EURODISNEY, can miss the mark at times. They lost over \$1 billion.

Admission price - Disney felt that Europeans would pay the \$40 admission price instead of offering low initial prices as they did for Japan and Florida to build up allegiance. A major European recession and devaluation of the French Franc compounded the problem.

Hotel stays - Disney assumed visitors would stay an average of 4 days at park's hotels, but

the average stay was only 2 days. Euro Disney only had 1/3 of the rides of Disney World.

Food - Visitors didn't graze all day at park concessions, instead Europeans desired to all eat at noon. The system couldn't handle it and many left the park.

Merchandise - Disney expected visitors to buy an even mix of high-end cloth goods and low-end print items. But Europeans bought mostly low-end products.

Airfare - Airfare from many European countries to France is nearly the same as that to Orlando, FL. So, Disney was competing against themselves.

There are dangerous implicit assumptions that are often made during the implementation of an innovative venture that can lead to failure unless they are honestly evaluated. Some are:

- Customers will agree with our perception that the product is great.
- Customers will buy our product because it is technically superior.
- The product will sell itself.
- We can develop the product on time and on budget.
- The rest of our organization will gladly support our strategy and provide help as needed.

There are several reasons why innovation fails to be successful in an organization. One is to create separate innovation divisions - **80% fail**. Innovation focused groups in an organization can have a longer life and be more useful by serving as opportunity finders and evaluators rather than as centers for venture operations. Strong executive support is also vital. Without it innovation is doomed.

There isn't anything wrong with continuous improvement, it's necessary also. But it isn't innovation - a major leap toward success over

time. With innovative thinking we have a structured process practiced visibly and consciously - an objective template and a means to intelligently allocate resources. A way to promote success and prevent failure. **A way to create our future.**

INNOVATION

Rules of the Road to Failure

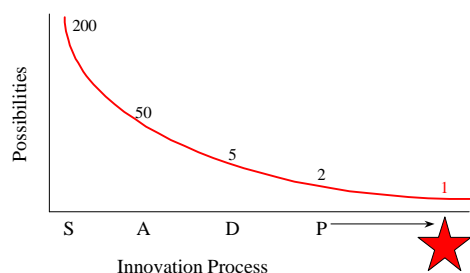
- * Create Separate Innovation Division and hold no one else responsible.
- * Proceed without strong executive support and participation.
- * Say you are doing innovation - but really do continuous process improvement.
- * Proceed directly from concept to implementation

It is important to keep things in perspective also. You must stay the course with your innovation process. Successful new products are hard to come by. Very few ideas or concepts turn out to be big winners, but you only need a few really good ones.

Lets say that in the example below that there are 200 ideas. Perhaps 50 are worthy of an assessment. Chances are that only about 5 of them warrant expending resources to develop based upon cost, difficulty of implementation, benefit and strategic fit. Of these probably only 2 will be pursued, and not all those pursued will be really big winners.

INNOVATION

Taking aim on a major new product



The Atlantic Division is fully engaged in implementing the innovation process.

We are making Innovation a deliberate part of our culture that is understood and practiced by the Command. Innovation is the responsibility of everyone in the command - individually and as part of a team.

Innovation is woven into our structure. One of the most exciting examples is the work being done by our Products and Services QMB headed by Mr. John Stock. The QMB chartered a PAT (led by Mr. Gordon Bosch and comprised mainly of our LD cadre) which used the four-step innovation process (Search, Assess, Develop, and Pursue) to identify new products and services that are being offered by the Command. In fact the QMB just established another PAT to start the process over again.

Perhaps even more interesting will be the results of another PAT, with NAVFAC-wide representation, using the process with a little different twist to evaluate our existing products and services. We are looking for products and services that are on the margin that can be eliminated or phased out to free up resources to pursue more valuable ones.

Mr. John Stock will brief you on the work of his innovative Products and Services QMB.